DATA ITEM DESCRIPTION	*Form Approved* *OMB NO.0704-0188*

Public reporting burden for collection of this information is estimated to average 110 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Washington Headquarters Services, Directorate of Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington , DC 20503.

1. TITLE	2. IDENTIFICATION NUMBER
SOFTWARE TEST PLAN (STP)	DI-IPSC-81438

3. DESCRIPTION/PURPOSE

3.1 The Software Test Plan (STP) describes plans for qualification testing of Computer Software Configuration Items (CSCIs) and software systems. It describes the software test environment to be used for the testing, identifies the tests to be performed, and provides schedules for test activities.

3.2 There is usually a single STP for a project. The STP enables the acquirer to assess the adequacy of planning for CSCI and, if applicable, software system qualification testing.

4. APPROVAL DATE (YYMMDD) 941205	5. OFFICE OF PRIMARY RESPONSIBILITY EC	6a. DTIC APPLICABLE	6b. GIDEP APPLICABLE

7. APPLICATION/INTERRELATIONSHIP

7.1 This Data Item Description (DID) contains the format and content preparation instructions for the data product generated by specific and discrete task requirements as delineated in the contract.

7.2 This DID is used when the developer is tasked to develop and record plans for conducting CSCI qualification testing and/or system qualification testing of a software system.

7.3 The Contract Data Requirements List (CDRL) (DD 1423) should specify whether deliverable data are to be delivered on paper or electronic media; are to be in a given electronic form (such as ASCII, CALS, or compatible with a specified word processor or other support software); may be delivered in developer format rather than in the format specified herein; and may reside in a computer-aided software engineering (CASE) or other automated tool rather than in the form of a traditional document.

7.4 This DID supersedes DI-MCCR-80014A, DI-IPSC-80697, DI-MCCR-80307, DI-MCCR-80308, and DI-MCCR-80309.

8. APPROVAL LIMITATION Limited Approval from 12/5/94 through 12/5/96	9a. APPLICABLE FORMS	9b. AMSC NUMBER N7081

10. PREPARATION INSTRUCTIONS

10.1 General instructions.

  a. Automated techniques. Use of automated techniques is encouraged. The term "document" in this DID means a collection of data regardless of its medium.

  b. Alternate presentation styles. Diagrams, tables, matrices, and other presentation styles are acceptable substitutes for text when data required by this DID can be made more readable using these styles.

(Continued on Page 2)

11. DISTRIBUTION STATEMENT
DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

DD Form 1664, APR 89   *Previous editions are obsolete*   Page 1 of 6 Pages
135/123

10. PREPARATION INSTRUCTIONS -- 10.1 General Instructions (continued)

c. <u>Title page or identifier</u>. The document shall include a title page containing, as applicable: document number; volume number; version/revision indicator; security markings or other restrictions on the handling of the document; date; document title; name, abbreviation, and any other identifier for the system, subsystem, or item to which the document applies; contract number; CDRL item number; organization for which the document has been prepared; name and address of the preparing organization; and distribution statement. For data in a database or other alternative form, this information shall be included on external and internal labels or by equivalent identification methods.

d. <u>Table of contents</u>. The document shall contain a table of contents providing the number, title, and page number of each titled paragraph, figure, table, and appendix. For data in a database or other alternative form, this information shall consist of an internal or external table of contents containing pointers to, or instructions for accessing, each paragraph, figure, table, and appendix or their equivalents.

e. <u>Page numbering/labeling</u>. Each page shall contain a unique page number and display the document number, including version, volume, and date, as applicable. For data in a database or other alternative form, files, screens, or other entities shall be assigned names or numbers in such a way that desired data can be indexed and accessed.

f. <u>Response to tailoring instructions</u>. If a paragraph is tailored out of this DID, the resulting document shall contain the corresponding paragraph number and title, followed by "This paragraph has been tailored out." For data in a database or other alternative form, this representation need occur only in the table of contents or equivalent.

g. <u>Multiple paragraphs and subparagraphs</u>. Any section, paragraph, or subparagraph in this DID may be written as multiple paragraphs or subparagraphs to enhance readability.

h. <u>Standard data descriptions</u>. If a data description required by this DID has been published in a standard data element dictionary specified in the contract, reference to an entry in that dictionary is preferred over including the description itself.

i. <u>Substitution of existing documents</u>. Commercial or other existing documents may be substituted for all or part of the document if they contain the required data.

10.2 <u>Content requirements</u>. Content requirements begin on the following page. The numbers shown designate the paragraph numbers to be used in the document. Each such number is understood to have the prefix "10.2" within this DID. For example, the paragraph numbered 1.1 is understood to be paragraph 10.2.1.1 within this DID.

1. <u>Scope</u>. This section shall be divided into the following paragraphs.

1.1   <u>Identification</u>. This paragraph shall contain a full identification of the system and the software to which this document applies, including, as applicable, identification number(s), title(s), abbreviation(s), version number(s), and release number(s).

1.2   <u>System overview</u>. This paragraph shall briefly state the purpose of the system and the software to which this document applies. It shall describe the general nature of the system and software; summarize the history of system development, operation, and maintenance; identify the project sponsor, acquirer, user, developer, and support agencies; identify current and planned operating sites; and list other relevant documents.

1.3   <u>Document overview</u>. This paragraph shall summarize the purpose and contents of this document and shall describe any security or privacy considerations associated with its use.

1.4   <u>Relationship to other plans</u>. This paragraph shall describe the relationship, if any, of the STP to related project management plans.

2. <u>Referenced documents</u>. This section shall list the number, title, revision, and date of all documents referenced in this plan. This section shall also identify the source for all documents not available through normal Government stocking activities.

3. <u>Software test environment</u>. This section shall be divided into the following paragraphs to describe the software test environment at each intended test site. Reference may be made to the Software Development Plan (SDP) for resources that are described there.

3.x   <u>(Name of test site(s))</u>. This paragraph shall identify one or more test sites to be used for the testing, and shall be divided into the following subparagraphs to describe the software test environment at the site(s). If all tests will be conducted at a single site, this paragraph and its subparagraphs shall be presented only once. If multiple test sites use the same or similar software test environments, they may be discussed together. Duplicative information among test site descriptions may be reduced by referencing earlier descriptions.

3.x.1   <u>Software items</u>. This paragraph shall identify by name, number, and version, as applicable, the software items (e.g., operating systems, compilers, communications software, related applications software, databases, input files, code auditors, dynamic path analyzers, test drivers, preprocessors, test data generators, test control software, other special test software, post-processors) necessary to perform the planned testing activities at the test site(s). This paragraph shall describe the purpose of each item, describe its media (tape, disk, etc.), identify those that are expected to be supplied by the site, and identify any classified processing or other security or privacy issues associated with the software items.

3.x.2   <u>Hardware and firmware items</u>. This paragraph shall identify by name, number, and version, as applicable, the computer hardware, interfacing equipment, communications equipment, test data reduction equipment, apparatus such as extra peripherals (tape drives, printers, plotters), test message generators, test timing devices, test event records, etc., and firmware items that will be used in the software test environment at the test site(s). This paragraph shall describe the purpose of each item, state the period of usage and the number of each item needed, identify those that are expected to be supplied by the site, and identify any classified processing or other security or privacy issues associated with the items.

3.x.3   <u>Other materials</u>. This paragraph shall identify and describe any other materials needed for the testing at the test site(s). These materials may include manuals, software listings, media containing the software to be tested, media containing data to be used in the tests, sample listings of outputs, and other forms or instructions. This paragraph shall identify those items that are to be delivered to the site and those that are expected to be supplied by the site. The description shall include the type, layout, and quantity of the materials, as applicable. This paragraph shall identify any classified processing or other security or privacy issues associated with the items.

3.x.4   <u>Proprietary nature, acquirer's rights, and licensing</u>. This paragraph shall identify the proprietary nature, acquirer's rights, and licensing issues associated with each element of the software test environment.

3.x.5   <u>Installation, testing, and control</u>. This paragraph shall identify the developer's plans for performing each of the following, possibly in conjunction with personnel at the test site(s):

   a.   Acquiring or developing each element of the software test environment

   b.   Installing and testing each item of the software test environment prior to its use

   c.   Controlling and maintaining each item of the software test environment

3.x.6   <u>Participating organizations</u>. This paragraph shall identify the organizations that will participate in the testing at the test sites(s) and the roles and responsibilities of each.

3.x.7   <u>Personnel</u>. This paragraph shall identify the number, type, and skill level of personnel needed during the test period at the test site(s), the dates and times they will be needed, and any special needs, such as multishift operation and retention of key skills to ensure continuity and consistency in extensive test programs.

3.x.8   <u>Orientation plan</u>. This paragraph shall describe any orientation and training to be given before and during the testing. This information shall be related to the personnel needs given in 3.x.7. This training may include user instruction, operator instruction, maintenance and control group instruction, and orientation briefings to staff personnel. If extensive training is anticipated, a separate plan may be developed and referenced here.

3.x.9   <u>Tests to be performed</u>. This paragraph shall identify, by referencing section 4, the tests to be performed at the test site(s).

4. Test identification. This section shall be divided into the following paragraphs to identify and describe each test to which this STP applies.

4.1   General information. This paragraph shall be divided into subparagraphs to present general information applicable to the overall testing to be performed.

4.1.1   Test levels. This paragraph shall describe the levels at which testing will be performed, for example, CSCI level or system level.

4.1.2   Test classes. This paragraph shall describe the types or classes of tests that will be performed (for example, timing tests, erroneous input tests, maximum capacity tests).

4.1.3   General test conditions. This paragraph shall describe conditions that apply to all of the tests or to a group of tests. For example: "Each test shall include nominal, maximum, and minimum values;" "each test of type x shall use live data;" "execution size and time shall be measured for each CSCI." Included shall be a statement of the extent of testing to be performed and rationale for the extent selected. The extent of testing shall be expressed as a percentage of some well defined total quantity, such as the number of samples of discrete operating conditions or values, or other sampling approach. Also included shall be the approach to be followed for retesting/regression testing.

4.1.4   Test progression. In cases of progressive or cumulative tests, this paragraph shall explain the planned sequence or progression of tests.

4.1.5   Data recording, reduction, and analysis. This paragraph shall identify and describe the data recording, reduction, and analysis procedures to be used during and after the tests identified in this STP. These procedures shall include, as applicable, manual, automatic, and semi-automatic techniques for recording test results, manipulating the raw results into a form suitable for evaluation, and retaining the results of data reduction and analysis.

4.2   Planned tests. This paragraph shall be divided into the following subparagraphs to describe the total scope of the planned testing.

4.2.x   (Item(s) to be tested). This paragraph shall identify a CSCI, subsystem, system, or other entity by name and project-unique identifier, and shall be divided into the following subparagraphs to describe the testing planned for the item(s). (Note: the "tests" in this plan are collections of test cases. There is no intent to describe each test case in this document.)

4.2.x.y   (Project-unique identifier of a test). This paragraph shall identify a test by project-unique identifier and shall provide the information specified below for the test. Reference may be made as needed to the general information in 4.1.

   a. Test objective

   b. Test level

   c. Test type or class

   d. Qualification method(s) as specified in the requirements specification

   e. Identifier of the CSCI requirements and, if applicable, software system requirements addressed by this test. (Alternatively, this information may be provided in Section 6.)

   f. Special requirements (for example, 48 hours of continuous facility time, weapon simulation, extent of test, use of a special input or database)

   g. Type of data to be recorded

   h. Type of data recording/reduction/analysis to be employed

   i. Assumptions and constraints, such as anticipated limitations on the test due to system or test conditions--timing, interfaces, equipment, personnel, database, etc.

   j. Safety, security, and privacy considerations associated with the test

5. Test schedules. This section shall contain or reference the schedules for conducting the tests identified in this plan. It shall include:

   a. A listing or chart depicting the sites at which the testing will be scheduled and the time frames during which the testing will be conducted

   b. A schedule for each test site depicting the activities and events listed below, as applicable, in chronological order with supporting narrative as necessary:

      1) On-site test period and periods assigned to major portions of the testing

      2) Pretest on-site period needed for setting up the software test environment and other equipment, system debugging, orientation, and familiarization

      3) Collection of database/data file values, input values, and other operational data needed for the testing

      4) Conducting the tests, including planned retesting

      5) Preparation, review, and approval of the Software Test Report (STR)

6. <u>Requirements traceability</u>. This paragraph shall contain:

    a. Traceability from each test identified in this plan to the CSCI requirements and, if applicable, software system requirements it addresses. (Alternatively, this traceability may be provided in 4.2.x.y and referenced from this paragraph.)

    b. Traceability from each CSCI requirement and, if applicable, each software system requirement covered by this test plan to the test(s) that address it. The traceability shall cover the CSCI requirements in all applicable Software Requirements Specifications (SRSs) and associated Interface Requirements Specifications (IRSs), and, for software systems, the system requirements in all applicable System/Subsystem Specifications (SSSs) and associated system-level IRSs.

7. <u>Notes</u>. This section shall contain any general information that aids in understanding this document (e.g., background information, glossary, rationale). This section shall include an alphabetical listing of all acronyms, abbreviations, and their meanings as used in this document and a list of any terms and definitions needed to understand this document.

A. <u>Appendixes</u>. Appendixes may be used to provide information published separately for convenience in document maintenance (e.g., charts, classified data). As applicable, each appendix shall be referenced in the main body of the document where the data would normally have been provided. Appendixes may be bound as separate documents for ease in handling. Appendixes shall be lettered alphabetically (A, B, etc.).